



UNITED STATES MARINE CORPS

MARINE CORPS LOGISTICS BASE

814 RADFORD BOULEVARD

ALBANY, GEORGIA 31704-1128

BO 6200.1J

A485

17 Apr 03

BASE ORDER 6200.1J

From: Commanding Officer

To: Distribution List

Subj: HEAT INJURY PREVENTION PROGRAM

Ref: (a) MCO 6200.1E Marine Corps Heat Injury Prevention Program  
(b) MCO 3500.27A Operational Risk Management (ORM)  
(c) NHEC Technical Manual 92-6, Prevention and Treatment of Heat and Cold Stress Injuries

Encl: (1) Fluid Replacement Guidelines and Work Rest Schedules  
(2) WBGTI and Heat Condition Flag Warning System  
(3) Summary of Heat Injury Signs/symptoms and First-Aid

1. Situation. This Order revises the requirements established for preventing heat injuries aboard Marine Corps Logistics Base, Albany, (MCLB, Albany). It incorporates the requirements in reference (a) and integrates the Automated Heat Stress System (AHSS) for monitoring the Wet-Bulb Globe Temperature Index (WBGTI). The AHSS is an automated wet-bulb globe temperature meter with the capacity of providing the WBGTI over the Base's local area network to allow access from any network base personnel computer. The AHSS will be the primary means of measuring and recording the WBGTI aboard base. Dissemination will be via the AHSS website and Heat Condition Flag Warning System.

2. Cancellation. BO 6200.1H

3. Mission. Leaders at all levels are responsible for implementing the requirements and procedures within this Order to prevent heat injuries during heat stress conditions.

4. Execution

a. Commander's Intent and Concept of Operations

b. (1) Commander's Intent. Heat injuries cause unnecessary suffering to victims, reduce morale, and degrade an organization's capabilities. Applying operational risk

17 Apr 03

management, in accordance with reference (b), and integrating controls and countermeasures into high-risk operations and processes can prevent heat injuries. These countermeasures include: hydration, monitoring and taking precautions according to the WBGTI, work-rest cycles, training, and acclimatization.

(2) Concept of Operations

(a) Heat injury prevention will be incorporated into all risk management worksheets developed for training, operational, and recreational events. Controls and countermeasures to prevent heat injuries will be included in safety briefings, operations orders, and letters of instructions pertaining to these events.

(b) Potable water will be available to all participants and drinking policies enforced during all events and operations where Marines and Civilians Marines may be at risk for heat injury. Ensure water consumption is a continuous process (prior to, during, and after the operation). Fluid replacement guidelines are at enclosure (1).

(c) The senior leader responsible for the event or operation will monitor the WBGTI before, and during the event or operation, including routine operations and processes, in order to evaluate the risk of heat injury and apply corresponding controls, countermeasures, and precautions. The WBGTI and associated Heat Condition Flag Warning System, with precautions, are at enclosure (2).

(d) The senior leader responsible for the event or operation will enforce work-rest cycles in accordance with the current WBGTI. Work-rest cycles are at enclosure (1).

(e) All personnel will be trained at least annually prior to the onset of the summer's hottest weather. Supervisors will ensure that newly assigned or non-acclimatized personnel are trained prior to being exposed to heat stress conditions. Numerous training resources are available on the Internet. Reference (c,) NEHC-TM92-6, is a very good heat stress management technical reference. Training also can be performed using expertise within the organization, from the Risk Management Branch, or from the Branch Medical Clinic.

(f) Acclimatization is a gradual process that conditions the body to perform effectively at extreme temperatures. A period of approximately 2 weeks with progressive degrees of heat exposure and physical exertion should be allowed for substantial acclimatization. Leaders at all levels shall identify newly assigned and non-acclimatized personnel within their organizations to ensure they are not exposed to heat stress conditions until they become acclimatized.

(g) Special instructions for physical fitness training during heat stress conditions:

1 Before outdoor physical training, command leadership and supervisors will check the current WBGTI to determine the degree of risk and required precautions to safely exercise. Leaders will adhere to the Heat Condition Flag Warning System in enclosure (1) when planning physical fitness programs and other strenuous physical training in hot environments. Every effort will be made to avoid outdoor physical fitness training, to include recreational sports, during the hottest part of the day.

2 Non-acclimatized personnel, personnel taking medications that reduce tolerance to heat stress, or individuals with a history of heat injury susceptibility, will be identified prior to being required to participate in physical training during heat stress conditions. Additional precautions or reductions in time and intensity of physical training may be required to prevent heat injury to these personnel.

3 Group or unit formation runs during heat stress conditions will be conducted with a safety vehicle behind the formation. The safety vehicle will contain fresh water adequate for the number of personnel and a medical corpsman with communication capabilities to call activate the MCLB Albany Emergency Medical Service.

4 Marines who recently reported for duty, who are on weight control, or are unaccustomed to strenuous exercise, will be offered a gradual program of slower and shorter runs.

17 Apr 03

(h) Special instructions for industrial areas during heat stress conditions:

1 Supervisors of occupationally exposed personnel will use enclosure (1) to plan work and rest cycles for individuals under their control.

2 Supervisors will provide environmental cooling to exposed workers in hot environments such as fans, open windows, and cool break areas, with potable water, in which workers can rest and rehydrate.

3 Every effort will be made to avoid strenuous outdoor tasks during the hottest part of the day.

4 Organizations are authorized to implement "tropical hours" for employees whose duties require them to work outdoors during the hottest part of the day.

b. Subordinate Element Missions

(1) Commanders, Commanding Officers, Directors of Tenant Units. Ensure compliance with the provisions of this Order by their subordinate leadership within their respective organizations.

(2) Manager, Risk Management Branch. Administer this Order and ensure it remains current and accurate.

(3) Base Industrial Hygienist

(a) Maintain the AHSS to ensure it is established and accessible 24 hours per day, 7 days per week, during periods of hot weather. Maintain a historical log of WBGTI readings.

(b) Manually monitor and record the WBGTI, using an alternate WBGTI meter, during periods when the AHSS is inoperable or internet service is interrupted. Provide the WBGTI to designated individuals as required.

(c) Provide heat injury training resources and support to subordinate and tenant organizations.

(4) MCLB Albany Staff Duty SNCO

(a) Monitor the WBGTI via the AHSS website on weekends and holidays during periods of hot weather.

(b) Upon request, provide the WBGTI to leaders of military organizations training or holding events aboard base who may not have access to the AHSS website.

(5) Officer-In-Charge, Branch Medical Clinic

(a) Designate an individual to monitor the WBGTI by accessing the AHSS website hourly from 0800 to 1600. When a WBGTI is detected or has changed, hoist the proper flag at Bldg 7200.

(b) Provide heat injury training resources and support to base organizations.

(6) Commanding Officer/Operations Officer. Designate an individual to monitor the WBGTI by accessing the AHSS website hourly from 0800 to 1600. When a WBGTI is detected or has changed, hoist the proper flag at Headquarters Battalion, Bldg 7122.

(7) Director, Marine Corps Community Services. Designate an individual to monitor the WBGTI by accessing the AHSS website hourly from 0800 to 1600. When a WBGTI is detected or has changed, hoist the proper flag/sign at the Fitness Center, Bldg 7960, and Golf Course, Bldg 7800.

(8) Head, Garrison Mobile Equipment. Designate an individual to monitor the WBGTI by accessing the AHSS website hourly from 0800 to 1600. When a WBGTI is detected or has changed, hoist the proper flag at Bldg 5400.

(9) Commander, Maintenance Center. Designate an individual to monitor the WBGTI by accessing the AHSS website hourly from 0800 to 1600. When a WBGTI is detected or has changed, hoist the proper flag at Bldg 2200.

(10) Provost Marshal. Designate an individual to monitor the WBGTI by accessing the AHSS website hourly from 0800 to 1600. When a WBGTI is detected or has changed, hoist the proper flag at Bldg 7520.

17 Apr 03

(11) Head, Traffic Management Office. Designate an individual to monitor the WBGTI by accessing the AHSS website hourly from 0800 to 1600. When a WBGTI is detected or has changed, hoist the proper flag at Bldg 3600.

c. Coordinating Instructions

(1) Heat injury prevention training curriculum will include: (1) Types of Heat Injuries, (2) Causes of Heat Injuries, (3) Heat Injury Prevention, (4) First-Aid treatment for Heat Injuries, and (5) Use of the WBGTI and Heat Condition Flag Warning System at enclosure (1). Enclosure (3) contains a summary of heat injury signs and symptoms and first-aid treatment.

(2) Heat injury prevention training attendance will be documented and course material will be made available for review during periodic Safety & Fire Prevention inspections.

(3) Access to the AHSS WBGTI is available through a website link on the MCLB Albany website at <http://www.ala.usmc.mil/base/>

(4) If the AHSS website becomes inaccessible or personnel cannot access the AHSS website, the current WBGTI can be obtained by contacting the Risk Management Branch at 639-5249. The AHSS unit is located behind Wing 300, Coffman Hall.

(5) Heat condition warning flags and signs will be removed when a WBGTI no longer exists. Flags and signs will be taken down at the end of the day or at dusk.

5. Administration and Logistics

a. Collateral Duty Safety Officers will monitor the status of training, and implement the requirement of this Order within their respective organizations. Collateral Duty Safety Officers will also spot-check the posting of required Heat Condition Warning Flags located in their work areas.

b. Collateral Duty Safety Officers will assist their organizations leaders and supervisors to implement heat casualty prevention controls and countermeasures into the operational risk management process with documentation on worksheets.

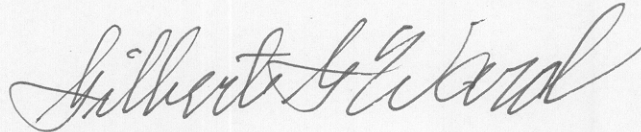
c. Collateral Duty Safety Officers will report heat injuries to the Risk Management Branch via MARTRAK.

d. Commanders, Commanding Officers, Directors of Tenant Units will provide the name and contact phone number of the individual designated to monitor the WBGTI within their respective organizations to the Base Industrial Hygienist.

6. Command and Signal

a. Command. This Order is applicable to this Command, all tenant Commands and organizations located aboard MCLB Albany.

b. Signal. This Order is effective the date signed.



G.G.WARD  
Acting

DISTRIBUTION: A

### Fluid Replacement Guidelines and Work Rest Schedules

Flag Condition	WBGTI °F	Easy Work		Moderate Work		Strenuous Work	
		Work / Rest	Water per Hr.	Work / Rest	Water per Hr.	Work / Rest	Water per Hr.
<b>Green</b>	80 - 84.9	No limit	½ Qt.	50/10	¾ Qt.	40/20	1 Qt
<b>Yellow</b>	85 - 87.9	No limit	¾ Qt.	40/20	¾ Qt.	30/30	1 Qt
<b>Red</b>	88 - 89.9	No limit	¾ Qt.	30/30	¾ Qt.	20/40	1 Qt
<b>Black</b>	90 & >	50/10	1 Qt.	20/40	1 Qt	10/50	1 Qt

- Work/rest cycle recommendations are based on personnel who are fully acclimatized, optimally conditioned, hydrated, and rested.
- Rest means minimal physical activity (sitting or standing) and should be accomplished in the shade if possible.
- For chemical protective over garments, PPE, or body armor, ADD 10°F to the WBGTI.
- Work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specific heat category. Individual water needs will vary ± ¼ quart per hour.
- The occurrence of a heat casualty should be considered a warning that other individuals may be at immediate risk.
- This guidance is not a substitute for common sense and experience; the appearance of heat casualties is a sure sign that the safe limit of work time had been exceeded and/or water consumption is inadequate.



### WBGTI AND HEAT CONDITION FLAG WARNING SYSTEM

The Wet-Bulb Globe Temperature Index (WBGTI) is a means of assessing the effect of heat stress on the human body. Heat casualties can be expected at WBGTI readings of 75 degrees F. and above unless preventive measures are instituted. Heavy work can cause heat injury at lower temperatures, especially if body armor or protective clothing is worn. The WBGTI is a single number derived mathematically from three distinct temperature measurements: wet bulb temperatures, dry bulb temperatures, and globe temperatures. Color-coded flags are flown in strategic locations on MCLB Albany so that all personnel will be aware of the current heat stress index and make appropriate adjustments.

When the WBGTI reaches the temperature indicated in the parenthesis below, the corresponding color flag closest to the specific site of the hot weather operation shall dictate level of operation.

a. Green Flag (WBGTI of 80°F to 84.9°F). Heavy exercises, for unacclimatized personnel, will be conducted with caution and under constant supervision.

b. Yellow Flag (WBGTI of 85°F to 87.9°F). Strenuous exercises or physical labor will be curtailed for unacclimatized, newly assigned Marines and Civilian Marines in their first 3 weeks. Avoid outdoor classes or work in the sun.

c. Red Flag (WBGTI of 88°F to 89°F). All PT or very strenuous work will be curtailed for those not thoroughly acclimatized by at least 3 weeks. Personnel not thoroughly acclimatized may carry on limited activity not to exceed 6 hours per day.

d. Black Flag (WBGTI of 90°F and above). All nonessential physical activity will be halted.

Essential activities are activities associated with scheduled exercises, or critical production work and maintenance where the disruption would cause undue burden on personnel or resources, be excessively expensive or significantly reduce a unit's readiness. Essential outdoor work will be conducted at a level that is commensurate with personnel acclimatization as determined by the unit's senior leader. All efforts should be made to schedule major hot weather training activities or work production to occur during cooler periods of the day, such as very early hours in the morning or later in the evening.

ENCLOSURE (2)

17 Apr 03

**Summary of Heat Injury Signs/Symptoms and First-Aid**

Injury	Signs/Symptoms	First-Aid Treatment
<b>Heat Syncope</b>	Fainting	Move to cool area. Allow to recline and provide cool water. Recovery will be prompt and complete.
<b>Heat Cramps</b>	Muscle cramps of the arms, legs, and/or stomach and excessive sweating.	Move to cool area or improvise shade. Loosen clothing. Monitor the individual and give water as tolerated. Should slowly drink at least one quart of water.
<b>Heat Exhaustion</b>	Heavy sweating with pale, moist, cool skin; headache, weakness, dizziness, and/or loss of appetite, heat cramps, nausea (with or without vomiting), chills, rapid breathing, change in mental status, confusion, and tingling of the arms and/or feet. Core temperature is 104 <sup>0</sup> F or less.	Move to cool area or improvise shade. Loosen or remove clothing. Monitor the individual and give water as tolerated. Should slowly drink at least one quart of water. Spray or pour water on individual and fan to cause a cooling effect. Urgent medical evaluation is indicated, especially if there are mental status changes. Put ice packs on armpits and neck.
<b>Heat Stroke</b>	The individual stops sweating (hot, dry skin). May experience headache, dizziness, nausea, fast pulse and respiration, seizures and mental confusion. They may collapse and suddenly become unconscious. Core temperature is greater than 104 <sup>0</sup> F, typically around 108 <sup>0</sup> F(although it may be as low as 102 <sup>0</sup> F). THIS IS A MEDICAL EMERGENCY.	HEAT STROKE IS A LIFE-THREATENING MEDICAL EMERGENCY. Move individual to a cool area or improvise shade. Loosen or remove clothing. Start cooling the individual immediately. Spray or pour water on individual and fan. Elevate legs. Put ice packs on armpits and neck. If conscious, individual should slowly drink at least 1 cup (8 oz.) of cool water every 20 minutes. Do not force water if abdominal discomfort occurs. Seek medical aid immediately. Continue cooling while awaiting EMS transport, and continue first aid while enroute.

ENCLOSURE (3)